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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,142	06/08/2001	Wolfgang Strehlau	078096-0105	6694

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EXAMINER	
GUTIERREZ, ANTHONY	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/876,142	STREHLAU ET AL.	
	Examiner	Art Unit	
	Anthony Gutierrez	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 March 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 6/10/2000. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to because Figure 1 has only reference numerals in the boxes of the flow chart and not actual text listing the steps of the method.

Specification

3. The disclosure is objected to because of the following informalities:

The first page of the specification lists Dr. Stephan A. Schunk and Dr. John M. Newsam as the inventors. This is inconsistent with the Declaration which lists five additional inventors.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bunin (United States Patent Application Publication US 2002/0049548 A1).

As to claims 1, 10-12, 19, 21, 22, and 27-29, Bunin discloses a method for the production and iterative optimization of a substance library having at least two substances or at least one reaction parameter relating to a performance characteristic of the substance library, the method comprising the steps of:

a) defining at least one production parameter and at least one test parameter (paragraphs 0009 and 0017);

b) preparation of the substance library by producing at least two substances on the basis of the at least one production parameter (paragraphs 0009, 0010, 0015, 0034, and Figure 1B);

c) testing of the at least two substances of the substance library with respect to at least one performance characteristic on the basis of the at least one test parameter (paragraphs 0033, specifically lines 17-22, paragraph 0034, specifically, lines 4-7, paragraphs 0037, and 0041-0043);

d) evaluating the test using electronic data analysis (paragraphs 0043 and 0047); and

e) varying the at least one production parameter and/or the at least one test parameter for optimizing the performance characteristics, to perform single or repeated iterations of steps b) to e) or c) to e) (paragraphs 0035 and 0036). Bunin further discloses embodiments of the present invention that relate to computer readable media or computer program products including code related computer

program instructions for carrying out the steps of the method of invention (paragraph 0064).

Bunin implies on multiple occasions that steps of the method are carried out through the use of automation (paragraphs 0009, 0010, and 0031).

Bunin does not, however, specifically state that steps b) to e) are carried out as an integrated automated process.

It would have been obvious, however, to one of ordinary skill in the art at the time of invention to automate all steps of the method since it has been held that broadly providing a mechanical or automatic means to replace manual activity which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192. This would allow the method to be carried out more rapidly, involving less manual labor, and with less likelihood or error.

As to claims 2, 3, 20, and 23, Bunin further discloses that the results of the tests in step c) are stored in a database together with the associated at least one production parameter and/or test parameter (Abstract, paragraphs 0032, 0038, and 0047-0050).

As to claims 4-6, and 24, Bunin further discloses that one or more effects of individual production parameters and test parameters on performance characteristics is determined by data analysis (paragraphs 0044-0054).

As to claims 7 and 25, Bunin further discloses data analysis using classical statistical methods, regression methods, linear or nonlinear regression, data mining methods, neural networks or evolutionary methods (paragraphs 0047, and 0051, specifically lines 1-3).

As to claims 8, 9, and 26, Bunin further discloses that parameters determined by data analysis as having a negligible effect on the performance characteristics are either kept constant or are not considered in subsequent iterations in step d) (paragraphs 0039, specifically lines 9-12).

As to claims 13, 14, and 30, Bunin discloses that the performance characteristics comprise activity and selectivity in one or more chemical reactions catalyzed by at least one catalyst (paragraphs 0012 and 0013, specifically, line 4, where enzymatic methods is a listed option).

As to claims 15-17, and 31, Bunin further discloses that the test parameters comprise reactor type, operating temperature of at least one catalyst and/or of starting material fluid and pressure and/or composition of the starting material fluid and/or residence time and/or space velocity (paragraph 0026, specifically lines 16-19).

As to claims 18 and 32, Bunin further discloses that the substance library is either arranged linearly or in a multidimensional matrix (paragraph 0034, specifically lines 23-26).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,625,546 B2 to Sepetov et al. teaches a method for direct identification of compound structures following combinatorial synthesis using molecular mass measurements of individual compounds.

US Patent 6,535,824 B1 to Mansky et al. discloses a sensor array on a substrate that can characterize large numbers of material samples rapidly.

US Patent 6,500,609 B1 to Ribeill et al. discloses a method for analyzing large numbers of compounds for use in combinatorial libraries that are generated in multi-well plates and that are associated with information stored in a database.

US Patent 6,269,312 B1 to Mayo et al. discloses a method for quantitative design and optimization of amino acid sequences using an inverse protein folding approach.

US Patent 5,961,923 to Nova et al. discloses a method that applies matrices of materials that are encoded with an optically readable code to many uses including combinatorial chemistry and enzymatic catalysis.

US Patent 5,880,972 to Horlbeck teaches a computer-implemented method for generation and representation of combinatorial chemistry libraries.

WO 92/01933 to Salemme et al. teaches a method in which a library of known protein structures is searched so that identified database fragments can be ranked in accordance with their context dependent probabilities which are related to the coordinates of atoms forming the structural fragments.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Gutierrez whose telephone number is (571) 272-2215. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Gutierrez
5/17/04

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